

McCosh (A. J.)

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BY

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AN operation must be judged by its results. While in the last few years reports of a large number of cases of vaginal hysterectomy have been published, yet the results recorded have apparently not been sufficiently favorable to convince all surgeons that the operation is comparatively safe and satisfactory. For instance, it is claimed by some excellent gynecologists that in carcinoma of the uterus high amputation is attended with better results, and of course with less danger, than is vaginal extirpation. There can be no question but that in many cases high amputation has been followed by most excellent results. I have recently seen two patients on whom this operation had been performed, seventeen and thirteen years ago respectively, who now have no sign of relapse. In both cases the operator was Dr. T. G. Thomas, and the diagnosis of carcinoma was confirmed by the microscope.

Vaginal hysterectomy, however, as a recognized surgical procedure is of recent date, and while a sufficient number of cases have been recorded for us to form a just estimate of its mortality and of the



relative proportion of patients who are well two years after operation, yet we have records of only a comparatively small number of patients who have been followed for five years or longer. It is from this latter class of cases that our conclusions must be drawn as to the proportion of radical cures effected. The dangers of extirpation must of course always be greater than those of high amputation. I think it has already been shown that the results of extirpation are more favorable as regards length of life after operation, than are those of the less radical operation, and as time advances cases are accumulating in favor of hysterectomy, and that in spite of the fact that this operation is done on many patients who would have been declared inoperable were high amputation the only surgical means at our disposal. It is important that all cases should be published, and especially those that have been under observation for a number of years. The longer the list the more nearly correct will be our conclusions. It is difficult to follow hospital cases for many years, yet if operators would take pains to hunt up all patients operated upon four years ago or longer and report on their condition, a comparatively just estimate of the average number of radical cures could be reached. The mortality of the operation may be estimated at about 10 per cent. Winter reckons 8.4 per cent. in 474 operations, and Krukenberg reckons the mortality at 15 per cent. in 243 cases operated on at the Berlin Frauenklinik.

The main object of this paper is to record my personal results. No new methods are recommended and no new instruments are presented. The opera-

tions are classed as 1st. For carcinoma; 2d. For prolapse.

FOR CARCINOMA OF THE UTERUS.

All the cases of vaginal hysterectomy that I have ever performed are reported, and they cover a period from August, 1888, to September, 1893. The operations were 16, the deaths none. Fifteen of these patients have been followed; 1 has disappeared from view. Of the 15 who have been kept under observation, there are at the present time (August, 1893) in good health and perfectly free from malignant disease:

Five years after operation	. . .	1 patient.
Four " " "	. . .	1 "
Two " " "	. . .	1 "
One and a half years after operation	. . .	1 "
One year	" "	2 patients.
Half "	" "	2 "
Less than three months after operation	4	"

There have died from return of the carcinoma at the end of thirty-three months 1 patient, and at the end of seven months 1 patient. There are alive, but with return of the disease either locally or in other organs, three years after operation 1 patient, one year after operation 1 patient. We thus see that of the 16 patients operated upon 4 have had a return of the disease. Unfortunately this will not be the final ratio, for with the exception of the patients who are in perfect health at the end of five and four years after operation, the cases have not been followed for a sufficiently long time to warrant any decided opinion as to their chances for cure.

I will mention in this connection two other patients with carcinoma of the body of the uterus, who were operated on by the combined vaginal and abdominal methods. One of these cases on whom I operated more than four years ago (fifty months), had a uterus as large as one at a pregnancy of three and a half months ; she is at present in perfect health, with no sign of relapse. The other patient, operated on two and a half years ago, is also in good health, with no trace of malignant disease. Four years at least must elapse before we can even pretend to regard a patient as cured. Indeed a number of relapses have been reported after the expiration of more than four years. I have recently seen a patient who four and a half years after extirpation was apparently free from disease ; six months later, however, carcinoma recurred in her pelvis, and she died in another half year. Still such late relapses are uncommon, and if a patient is well at the end of four years we can feel comparatively safe in predicting that there will be no return of the *original* growth.

I have extirpated the uterus for carcinoma by various methods 21 times ; at the end of more than four years 3 of these patients and at the end of two years 5 are well and entirely free from return of the disease, so far as can be determined by personal examination. At the end of one year 9 patients are apparently perfectly well.

When extirpation has been possible, I have always chosen this operation in preference to any other. I consider that a case is unsuitable for vaginal hysterectomy if either the broad ligaments or bladder are infiltrated. If a uterus is more than double its nor-

mal size, I consider abdominal hysterectomy the safer operation.

Before reporting the history of the vaginal cases I will briefly describe my method of operation. It is unwise, I think, to lay down any special plan, to be followed in every case. The details of the operation must constantly vary, both in the manner of their execution and in their sequence, according to the peculiarities of the case. My general plan, however, is as follows: The patient is placed in the lithotomy-position, with the buttocks elevated on a hard pillow. The vagina, vulva, and neighboring parts are cleansed in the usual surgical manner, and rendered as nearly aseptic as possible. A Sims or a modified Simon speculum is used to draw down the posterior vaginal wall and perineum. If there is any cauliflower-growth from the cervix it is scraped off by the spoon or sharp curet. Any ulcerated surface is cauterized with the Paquelin cautery, after a fresh scrubbing with 1 to 1000 bichlorid solution. The cervix, if any remains, or the edge of the vagina, is seized with vulsellum forceps, and the uterus is dragged downward toward the vulvar orifice. The anterior vaginal wall, with the bladder, is then dissected by scissors from the cervix, the incision being made at least half an inch away from the edge of the neoplasm. The separation of the anterior wall of the uterus from the bladder and vagina, as far laterally as the broad ligaments, is then completed up to the peritoneum, which, as a rule, is not opened at this stage. The posterior vaginal wall is then separated, and the peritoneal cavity freely opened in Douglas's

pouch. A finger can now be passed in behind the broad ligaments, and with another finger in front these can be easily palpated, and their exact condition determined. If the edge of the vagina bleeds, the hemorrhage is controlled best by a running catgut suture. The lower part of each broad ligament, (perhaps a fourth of the entire length) is then secured, generally with a ligature, and that part of the ligaments is cut loose from the uterus. This organ will generally then be considerably freed, and can be pulled lower down. The next portion of each ligament is next secured, and cut in a similar manner. Either before or after this the peritoneal cavity is freely opened over the anterior part of the fundus. This can generally be done by tearing with the finger, though sometimes the peritoneum is so tough that a sharp instrument is needed to make the opening. The upper portions of the ligaments are then secured and cut, and the uterus is free. It is sometimes easier at the upper part of the ligaments to tie (or clamp) on one side only, and, cutting the uterus free on this side, drag the organ outside the vulva, where the remaining portion of the ligament can be secured.

After the uterus has been removed, careful inspection is made to ascertain if hemorrhage has ceased. Occasionally a few bleeding points need a catgut ligature, and sometimes the ligatures in the broad ligaments need to be reapplied. If the ovaries and Fallopian tubes appear healthy, they are not disturbed, unless they fall downward into the opening, in which case they are removed. If the adnexa, however, are infiltrated with inflammatory or other material, the ovaries and tubes are removed, and also as much as possible of the ligaments. In most

of my cases I have sutured the peritoneum to the cut edge of the vagina. This is done partly to stop the oozing of blood from the cut edge of the vagina and partly to cover up the raw bleeding surface that remains between the vagina and the peritoneum. I think this a good rule to follow, though in the few cases in which this detail has been omitted no harm has resulted. In only a few cases have I closed the peritoneal cavity by sutures. There may be some advantage in this, but I have not found it to be necessary.

The stumps of the broad ligaments are drawn gently downward, and a roll of iodoform-gauze is placed in the opening extending up to the peritoneum, but not inside the cavity. A pad of sterilized gauze is placed over the vulva, and is renewed as often as may be necessary. The iodoform-gauze pad is removed on the fifth or sixth day, and the vagina gently irrigated. The patients, as a rule, are out of bed by the fourteenth day, often by the ninth. The temperature has in two or three of the patients risen on the fourth or fifth day to 101° , but in the other cases it has never risen above 100° . As a rule very little shock has followed the operation, and but little pain is experienced.

As stated before, the plan sketched is often altered. Sometimes it is easier to begin the separation behind. Sometimes better access can be gained to the broad ligaments by tipping the fundus forward or backward.

Shall the broad ligaments be secured by clamps or by ligatures? As a rule, I prefer ligatures. In most

cases they can be applied without much difficulty. In certain cases, however, in which the uterus cannot be drawn freely downward or in which, on account of the patient's condition, it is necessary to adopt the most rapid method, clamps are preferable. The use of clamps is followed, I think, by more pain and perhaps necrosis of more tissue than is the case when ligatures are employed; but these disadvantages may be trivial when compared with the greater safety and rapidity with which clamps can be adjusted in certain cases. The ordinary clamps used in abdominal work, with a long curved biting-surface and short handles, are all that is needed. They are removed at the end of thirty-six or forty-eight hours.

I think, however, that ligatures are to be preferred, and there must be very few cases in which they cannot be applied. I pass them threaded in a full curved, rather short but heavy needle, held in an ordinary needle-holder. In most of my cases I have employed fine silk for ligation of the broad ligaments. I never feel quite secure after the ligation of considerable masses of tissue with catgut, and always think that there is greater liability for the knot to loosen and for portions of the pedicle to draw out. It may be prejudice, but I am always better satisfied when the broad ligaments have been ligated with silk, and as more tissue can be embraced by the ligature fewer are needed, and time is thus saved. I have seen no great disadvantage in the use of silk. In a very few cases (three of sixteen) it has acted as a foreign body, and after the lapse of a few weeks has induced a certain amount

of vaginal discharge. If left alone these ligatures would probably have come away of themselves, but it is a very simple matter to introduce a speculum, grasp the ligatures in a pair of forceps, and by a gentle pull they will slip off almost painlessly, and the patient will at once be rid of this petty annoyance. As a rule, however, no inconvenience has been experienced from the use of silk.

It may be of interest to mention that the great majority (80 per cent.) of these operations were performed in the public operating-room of a large general hospital, and the patients were placed in the common ward with the usual variety of cases, septic and aseptic, which a general hospital collects.

CASE I.—A multipara, aged forty-nine years, with carcinoma of the cervix extending to the internal os. The operation was performed in August, 1888. A cauliflower-growth was burned off by Paquelin cautery. The broad ligaments were secured by five clamps. No suture of the peritoneum was used. The patient sat up on the fifteenth day. Examined July, 1893, no trace of disease in the pelvis was found, and the general condition was excellent.

CASE II.—A multipara, aged fifty-three years, with carcinoma of the cervix, involving the edge of the vagina. Operation was performed in the Cancer Hospital August, 1888. The broad ligaments were secured by six clamps. In September, 1891, there was a return of the carcinoma at the apex of the vagina. Death occurred in June, 1892.

CASE III.—A multipara, forty-two years of age, had carcinoma of the fundus, involving the entire uterine body down to the internal os. She was operated upon in 1889 in the Presbyterian Hos-

pital. The broad ligaments were secured by clamps. The patient sat up on the twelfth day. The examination, July, 1893, showed no return of the disease, and the general health was perfect; the body-weight was 225 pounds.

CASE IV.—A multipara, aged thirty-nine years, with carcinoma of the cervix. The operation was performed in July, 1890, in the Presbyterian Hospital. The lower part of the broad ligaments was secured by ligatures, the upper part by clamps. In November, 1892, there was a return of the disease. The woman was alive in July, 1893.

CASE V.—A married nullipara, aged forty-three years, with carcinoma of the cervix. The operation was performed in April, 1891, in the Presbyterian Hospital. The broad ligaments were secured by clamps and ligatures. The patient sat up on the fourteenth day. Although she has disappeared from observation, she was free from disease three months after the operation.

CASE VI.—A multipara, a patient of Dr. W. C. Walser, presented carcinoma of the cervix and posterior wall of vagina, extending downward to the vulva for two and a half inches. The entire thickness of the posterior vaginal wall was infiltrated with the growth, a rounded area two and a half inches in diameter being involved. She was operated upon October, 1891. The uterus was first removed, both ligatures and clamps being used. The entire posterior vaginal wall was then removed, from its upper end to a point just above the posterior commissure. It was more or less adherent to the rectum, and at several points the rectal wall was partly torn, leaving intact the mucous coat alone. A great part of this separation was done while one finger was in the rectum. The patient lost a considerable amount of blood. The operation lasted one and three-quarter hours. The patient rallied

well, however, and was out of bed by the twenty-first day. In July, 1893, she had no sign of return of the disease.

CASE VII.—A multipara, thirty-two years of age, with carcinoma of the cervix. The vagina and broad ligaments were apparently free from disease. She was operated upon October, 1891, in the Presbyterian Hospital. Both ligatures and clamps were used. The patient had a rapid convalescence, but the disease returned in four months, and as the woman was desirous of another attempt at cure celiotomy was performed in June, 1891. A carcinomatous mass was removed from the cicatrix at the apex of the vagina, but the intestines were found infiltrated and the pelvic glands involved. No attempt at radical removal of the disease was made. The abdomen was closed and the patient made an uneventful recovery. She died four months later.

CASE VIII.—A multipara, forty-seven years of age, with carcinoma of the cervix. The operation was performed in July, 1891. The broad ligaments were tied with silk ligatures. The patient was out of bed on the twelfth day. She was examined in July, 1893, and no sign of a return of the carcinoma was found; her condition was then good.

CASE IX.—A multipara, aged forty-nine, had carcinoma of the cervix, and was operated on in July, 1892. The ligatures were examined July, 1893. No return of carcinoma was found and the general health was excellent.

CASE X.—A married nullipara, aged fifty-one; carcinoma of the cervix. The operation was performed in July, 1892. Ligatures and clamps were used. The left broad ligament was found to be infiltrated and was in part removed. The patient had always been known as a bleeder, and a great deal of oozing of blood followed the operation, which required a large

number of ligatures and suturing. The patient in July, 1893, was in a very low condition from carcinoma of the stomach and other abdominal viscera.

CASE XI.—A multipara, aged thirty-nine, who had carcinoma of the cervix. The operation was performed June, 1892. The broad ligaments were secured by ligatures. The patient was examined July, 1893, and no sign of a return of the growth was found, the health being good.

CASE XII.—A multipara, forty-two years of age, with carcinoma of the cervix and of the lower half of the uterine body and edge of the vagina. She was operated upon in March, 1893. The broad ligaments were secured by ligatures. The woman sat up on the tenth day, was examined in August, 1893, and no sign of a return of the growth was found. The patient had gained twenty pounds in weight.

CASE XIII.—A multipara, aged forty-three, with carcinoma of the cervix and of the lower part of the fundus. The operation was performed in March, 1893. The broad ligaments were secured by ligatures. The patient was examined in August, 1893, and found to be in perfect health, with no trace of the disease.

CASE XIV.—A multipara, aged thirty-nine, with carcinoma of the cervix. The operation was performed in the Presbyterian Hospital, August, 1893. The broad ligaments were secured by ligatures (catgut), and the patient was out of bed on the eleventh day.

CASE XV.—A multipara, aged forty-two, with carcinoma of the cervix. The operation was performed in August, 1893. The broad ligaments were secured by silk ligatures, and the patient was out of bed on the twelfth day.

CASE XVI.—A multipara, aged thirty-nine, with carcinoma of the cervix and edge of the vagina.

The operation was performed in August, 1893. The broad ligaments were secured by silk ligatures, and a cylinder of vagina an inch deep was removed from the upper end, and the peritoneum was sutured to the cut edge. • The patient was out of bed on the eleventh day.

The foregoing record comprises all of my cases of vaginal extirpation for carcinoma. In certain other cases I have begun the operation with the hope that the entire uterus could be extirpated, but have been forced, on account of the involvement of the bladder or of the broad ligaments, to limit myself to high amputation. While there are a certain number of these cases suitable for abdominal hysterectomy, I have never seen one that, in my opinion, was suitable for sacral hysterectomy. There may be exceptional cases, but my experience with the operation has led me to the conviction that, when a uterus cannot be removed by the vagina or abdomen, it is better to refrain from any radical operation. By sacral operations I mean any of the methods by which the uterus is removed through the back, whether by sacral resection or perineal incisions. The same argument does not apply to carcinoma of the uterus and of the rectum. In excision of the latter organ, even if the disease is not eradicated, the danger of intestinal obstruction will probably be removed. In disease of the uterus no such danger threatens the patient.

FOR PROLAPSE OF THE UTERUS AND VAGINA.

In ordinary cases of prolapse of the uterus, even when complete, the plastic operations usually adopted

in such cases (perineorrhaphy and colporrhaphy) are as a rule adequate to effect a cure. In such patients more serious operations, such as vaginal hysterectomy or abdominal hysterorrhaphy, are unjustifiable. There are certain cases, however, of complete prolapse of the uterus and vagina that the minor plastic procedures are utterly inadequate to cure. Such cases are found among working-women, when a large uterus and an enormously hypertrophied vagina hang constantly outside the vulva, and have so hung for many years; the bladder has been dragged completely outside, the rectum has been pulled downward so as to be almost doubled on itself, and the pouches behind and in front of the uterus are filled with intestine, which slips upward and downward according to the position of the patient. In such patients the vagina has apparently been the main factor in the prolapse, for it is very much lengthened and widened, and its muscular and cellular tissue is enormously increased, the wall being often an inch in thickness. The prolapsed mass may be as large as an adult head, and sometimes is irreducible. Perhaps among private patients who can and will take good care of themselves the combination of perineorrhaphy, colporrhaphy, and Alexander's operation, with the wearing of a pessary afterward, may nearly always render them comfortable. In working-women, however, who neglect themselves and are obliged to lift and carry heavy burdens, such operations are in my experience almost invariably attended by failure. When the patient leaves the hospital a brilliant cure has apparently been effected, and at the end of three

months the cure may still persist, but in another three months or in a year the condition of these unfortunate women is generally as bad as before operation. I know that this is a strong statement, and is directly opposed to the reports of some of our prominent gynecologists, men for whose opinion I have the greatest respect, but I simply state my own conviction, and one that has been partly formed from observation of patients who have been operated on by these same surgeons, who maintain that the plastic procedures suffice in every case.

If plastic operations on vagina and perineum will not cure such patients, to what other procedures can we resort? Will vaginal hysterectomy be sufficient, or is abdominal hysterorrhaphy the more satisfactory operation? I consider that either one is justifiable in such conditions. In my experience vaginal hysterectomy *alone* is not sufficient to effect a lasting cure. When reinforced by perineorrhaphy and colporrhaphy it may give satisfactory results in most cases, but extirpation alone, without the aid of the minor procedures, has been followed by failure in nearly all of my cases.

Six patients whose uteri have been extirpated for the cure of aggravated prolapse have come under my observation. Four of them were operated on by myself, the other two by able surgeons of this city. In three of the six the hysterectomy has been reinforced by perineorrhaphy or colporrhaphy. One patient alone has been satisfied with the result obtained. In this case I reinforced the entire posterior vaginal wall and built up the perineum. In two patients the result may be classed as a partial

success. In one of these hysterectomy alone was performed ; in the other perineorrhaphy was added (both cases were operated on by me.) In three cases the result has been a failure, and the patients are but little better off than they were before operation. At the end of a year, in each patient a larger mass, of the size and character of the original tumor, only minus the uterus, protruded from the vulva. In one of them (operation by the author) hysterectomy alone had been performed ; in another perineorrhaphy, and in the third lateral colporrhaphy had been added. In the last case, at the end of eight months, the woman's condition was so wretched that she begged for further operative relief, and in response to her appeal I opened the abdomen (with patient in the Trendelenburg posture) and with considerable difficulty drew the cicatrized apex of the vagina up into the abdominal wound, and in that situation carefully sutured it to the peritoneum and recti muscles, covering it with the external oblique muscle and the skin. At the end of six months the result was highly gratifying ; the vagina was still somewhat roomy, but there was no sign of cystocele, rectocele or protrusion outside the vulva. The patient was comfortable and happy.

The result in this patient has been so satisfactory that I have persuaded one of the other cases of failure to undergo the same operation.

A short record of the four cases operated on by myself follows :

CASE I was in a married multipara, aged forty-two years, with prolapse that had existed for twelve years. Perineorrhaphy and presumably colporr-

rhaphy had been performed four years previously in one of our city hospitals. The prolapsed mass had been irreducible for six months. It was the size of the crown of an ordinary Derby hat, extending outside the vulva to a length of twelve inches. It measured 19 inches across the circumference. Reduction was impossible, even after two weeks' rest in bed, with ice-bags, etc. She was operated on in July, 1891. The uterus was extirpated, the posterior vaginal wall reduced in size, and a perineorrhaphy added. This patient died a few months after the operation from renal and cardiac disease. The result may be classed as a partial success, though had the woman lived longer it would I think have been classed as a failure.

CASE II was in a multipara, thirty-eight years of age, with prolapse that had existed for ten years, and of about the same size as in Case I, but reducible. The uterus was extirpated in July, 1891, and almost the whole of the posterior vaginal wall was removed. The weight of the vaginal tissue was ten ounces. This left a large triangular gap, the edges of which were united, and a high perineum was formed, to partially close the outlet. This patient, at the end of two years, has still a very voluminous vagina, but there is no prolapse, and I consider the result satisfactory.

CASE III was in a multipara, aged thirty-nine years, with prolapse for fourteen years, the size of a large cocoanut. Operation was performed in August, 1892. The uterus was extirpated. In six months the patient was as uncomfortable as before the operation, and the case may be classed as a complete failure.

CASE IV was in a multipara, aged forty-one years, with prolapse for nine years as large as in Case I. The woman had on two previous occasions submitted to operations for cure of her trouble. The uterus was extirpated in March, 1893. At the end of five months the prolapse had partially returned,

and doubtless will have fully returned in another three months. So convinced is the patient of this that in October she means to re-enter the hospital for an abdominal elytrorrhaphy.

Of the two patients operated on by other surgeons both are dissatisfied with the result of the original operation, and refuse further operative interference on account of the unsatisfactory result following their first attempt.

The details of the operation do not essentially differ from those of hysterectomy for carcinoma, except that the whole procedure is performed outside the vulva. The operation, however, is somewhat tedious and is attended with considerable loss of blood. When the uterus is removed an enormous raw surface remains, consisting of the inner surface of the vagina. This surface continues to bleed persistently, and the bloodvessels seem to have very little contractile power. In spite of numerous ligatures the oozing persists, even after pressure by clamps, sponges, gauze, etc., has been exerted for some time. I do not refer now to the broad ligaments, which of course have been tied in the usual manner, and cause no trouble, but to the free capillary and venous hemorrhage from the spongy surface of the vagina, out of which the uterus has been dissected. I have found that an attempt to stop this by means of ligatures is endless, and that the best means for its control is a continuous catgut suture. A comparatively small area of vagina is dissected off the uterus by scissors, and a needle threaded with fine catgut is carried out and in just under this bleeding surface, and a complete circum-

suture of the area is made. Then a further dissection is made and another line of suture, and so on, until the uterus is free. In one of my patients, even by this method, I could not completely stop the hemorrhage, and I was compelled, after wasting considerable time, to fold the vagina inward on itself, bringing one bleeding surface against the other, and there suture them together around the entire circumference. On account of this tendency to bleed the operation is somewhat tedious and should not be practised on weak patients.

It may be that a larger experience may modify my views, but at present it is my judgment that vaginal hysterectomy for the cure of aggravated prolapse is an unsatisfactory procedure, and that, as a rule in such cases, abdominal hysterorrhaphy (hysteropexy) is the preferable operation.

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